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*May 1*  
~~1957~~, 1957

PROPOSAL

FOR

REDESIGN OF THE PI CASE

DCS	1	ENV ENT	16/7/80	BY	37169
CHG COMP	56	ENV	56	TOTL	30
CHG CLAS	5	CHG	11	ENV L CHG	5
SUST	22	ENV L CHG	2010	ANAL	CHG 1002

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P R O P O S A L  
FOR  
REDESIGN OF THE PI CASE

Background

Though the present PI Case has been a most satisfactory item, improvements in other devices and a change in the requirements for the former, made a redesign desirable.

The PI Case is supplied complete with two Magnesium Matchheads attached to two MK I Delay Pencils. As both pencils are of the same delay time it therefore restricts the operator from a choice of times. In addition, although the Magnesium Matchhead was a highly successful unit, being designed specifically for the ignition of the PI Case, it was often removed and used for ignition of other devices.

In view of recent developments, namely, the satisfactory completion of the new Attachable Fire-Starter, it is felt that this unit should be incorporated into a new PI Case, together with the necessary modification of the case to permit the insertion in the field of MK I Delay Pencils with coupling base attached.

Program

This company proposes to redesign the present PI Case to permit its functioning with the Attachable Fire-Starter and MK I Delay Pencils equipped with coupling base. It is anticipated that a great deal of experience derived from a previous program (Redesign of Clam, Task 1210-C-10) can be put to good use. Such problems as the attachment of the delay pencils and Fire-Starters and the means for transmitting the spit from the coupling base to the Fire-Starter seem to be paramount. However, it is felt that these can be successfully accomplished in light of the above experience.

A further desirable modification over the present unit reverts to the method of loading the napalm. The previous system required the powder to be loaded through a single hole followed by the solvent. It is felt that the new unit should be provided with a vent hole as well as a filling hole in order to permit the loading of prepared napalm.

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Scope

It is expected that the program as outlined above will require the part-time services of one project engineer and one technician over a period of six months. In addition to the monthly progress reports and a final technical report, a number of prototypes commensurate with the remaining funds will be supplied. A short testing program will then be set up by agreement with the Project Officer. This testing program will be in addition to the tests to which the units will be subjected during the course of development.

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PROPOSAL

FOR

REDEMPTION OF THE PI CASE

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**SECRET****PROPOSAL****FOR****REDESIGN OF THE PI CASE**

This proposal is identical with the one submitted on 5 March 1957 for performance at [redacted] except that the cost estimate has been revised to reflect the burdens applicable to the company's own facilities at [redacted]

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**COST ESTIMATE**

Engineering Labor - 650 hours at \$3.50	\$2,280
Technician Labor - 750 hours at \$2.50	1,880
Overhead, 131%	<u>5,450</u>
Subtotal I	\$9,610
Shop Labor - 150 hours at \$2.50	\$ 380
Overhead, 136%	<u>520</u>
Subtotal II	900
Materials	\$ 500
Tools, Jigs and Fixtures	400
Travel and Miscellaneous	<u>100</u>
Subtotal III	<u>1,000</u>
Subtotal IV	\$11,510
G and A, 10%	<u>1,150</u>
Subtotal V	\$12,660
Fee, 8%	<u>1,010</u>
TOTAL	\$13,670

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*May 1*  
*1957*

P R O P O S A L

FOR

DEVELOPMENTAL PRODUCTION

OF

FIRE-STARTERS

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P R O P O S A L

FOR

DEVELOPMENTAL PRODUCTION OF FIRE-STARTERS

This company developed the "Fire-Starter" under a previous task to the point where incendiary performance, fire transfer within the unit, and various other parameters were extensively tested until the item was found to be satisfactory. In addition, a suitable package for the unit was also developed and approved.

The unit is now ready for limited developmental production with the aim of:

1. Transferring laboratory manufacturing methods to production type methods.
2. Testing the unit more extensively on a statistical basis, correcting minor deficiencies and adaptations to production methods, and setting the packaged item aside for long term storage.
3. Having available larger amounts of the items for field tests.

It is visualized that for a production on the order of a few thousand over a period of about two months actual production time, a very simple semi-mechanized measuring and filling setup would be built as well as jigs and fixtures similar to those customary in pyrotechnical production. An automatic hydraulic press will be obtained for pressing the incendiary composition in the same manner which must be used for future production lots. It is imperative that such a press be obtained for this work in order to insure the validity of the final specifications which are the chief objectives of this contract. Since it is quite likely that the alterations in the mode of assembly will lead to certain difficulties and failures, preliminary tests will be made on initial production lots of 200 units. These tests will involve ignition and burning studies at minimum and maximum temperature with both fuse and primer ignition in lots of 50 for each condition. Dependent upon the results of these tests, further lots of 200 Fire-Starters will be manufactured until such time as they pass the above tests. It should be noted that these units prepared above will not be subtracted from the total number of units to be supplied.

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A total of 3,000 Fire-Starters will then be made in three lots (500, 1000, 1500). Each lot will be submitted individually and will be inspected and tested by the Project Officer in accordance with the tentative specifications already set up. When the first lot is approved, the Project Officer will authorize the manufacture and submission of the second lot, etc., until all three lots have been submitted and accepted. The units will then be delivered to the customer.

Scope:

It is expected that the program as outlined above will require the part-time services of one project engineer and the full-time services of one technician over a five months' period. It is anticipated that satisfactory supervision will be provided by one half the total working time of the supervisor. Any alterations in previously standardized procedures will be made in the drawings and specifications. A detailed report on the manufacturing methods, test results and other pertinent information will be submitted in addition to the routine monthly reports. An overall period of six months will be necessary due to delivery dates quoted on the bodies and adapters.

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**SECRET**BREAKDOWN OF MATERIAL COSTS

1,000 Bodies and Adapters	\$1,210.00
3,000 Bodies and Adapters	3,330.00
Stoppers, Tape, Polyethylene Envelopes and Packing Material	200.00
Cans - 3,250 at \$150/M	488.00
Tooling	670.00
Primer Coating	65.00
Rental of Can Sealer	82.00
Chemicals	<u>100.00</u>
	\$6,145.00

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FOR

DEVELOPMENTAL PRODUCTION OF FIRE-STARTER

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This proposal is identical with the one submitted on 11 March 1957 for performance at [ ] except that the cost estimate has been revised to reflect the burdens applicable to the company's own facilities at [ ]

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COST ESTIMATE

Materials and Purchased Parts	\$6,145
Tools, Jigs and Fixtures	500
One Automatic Hydraulic Press	1,525
Travel and Miscellaneous	<u>250</u>
Subtotal I	\$8,420
Engineering Labor - 400 hours at \$3.50	\$1,400
Technician Labor - 850 hours at \$2.50	2,125
Overhead, 131%	<u>4,620</u>
Subtotal II	8,150
Shop Labor - 150 hours at \$2.50	\$ 375
Overhead, 136%	<u>510</u>
Subtotal III	<u>890</u>
Subtotal IV	\$17,460
G and A, 10%	<u>1,750</u>
Subtotal V	\$19,210
Fee, 8%	<u>1,540</u>
TOTAL	\$20,750

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